January 8, 2002

RE: Behlen Engineered Plastics 039-16118-00572
TO: Interested Parties / Applicant

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Registration

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 4-21.5-3-4 (d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

If you wish to challenge this decision, IC 4-21.5-3-7 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, ISTA Building, 150 W. Market Street, Suite 618, Indianapolis, IN 46204, **within (18) eighteen days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) the date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for consideration at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosure

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Frank O'Bannon
Governor

Lori F. Kaplan
Commissioner

100 North Senate Avenue
P. O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

January 8, 2003

Richard W. Graber - Safety Director
Behlen Engineered Plastics
67742 County Road 23
New Paris, Indiana 46553

Re: Registered Construction and Operation Status,
R 039-16118-00572

Dear Mr. Graber:

The application from Behlen Engineered Plastics, received on September 16, 2002, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.1, it has been determined that the following agricultural plastics equipment and miscellaneous metal products manufacturing source, to be located at 67742 County Road 23, New Paris, Indiana 46555, is classified as registered:

(a) One (1) surface coating operation, consisting of the following:

(1) One (1) E-coat epoxy dip tank, capacity: 163 metal agricultural parts per hour,

(2) One (1) E-coat acrylic dip tank, capacity: 163 metal agricultural parts per hour, and

(3) One (1) spray application, equipped with high volume low pressure (HVLP) spray guns, operating within an enclosed tank to control particulate overspray, capacity: 163 metal agricultural parts per hour.

(b) Four (4) roto-molding units, capacity: 285 pounds of resin per hour each.

(c) Nine (9) silos, total throughput capacity: 1,500 pounds of thermoplastic granules per hour, consisting of:

(1) Four (4) storage silos, capacity: 160,000 pounds thermoplastic granules each.

(2) Two (2) storage silos, capacity: 11,550 pounds thermoplastic granules each.

(3) Two (2) storage silos, capacity: 75,870 pounds thermoplastic granules each.

(4) One (1) regrinder silo, capacity: 61,400 pounds thermoplastic granules.

(d) Four (4) metal inert gas (MIG) welding stations, using ER70S-3 wire, capacity: 1.30 pounds of wire per hour, each.

(e) One (1) natural gas-fired boiler, rated at 8.37 million British thermal units per hour.

(f) One (1) natural gas-fired bake oven, rated at 2.5 million British thermal units per hour.

(g) Twenty-eight (28) natural gas-fired space heaters, rated at a total of 5.07 million British thermal units per hour, total, consisting of the following:

(1) One (1) space heater rated at 0.080 million British thermal units per hour,

(2) Three (3) space heaters rated at 0.130 million British thermal units per hour, each,

(3) Two (2) space heaters rated at 0.140 million British thermal units per hour, each,

(4) Eight (8) space heaters rated at 0.160 million British thermal units per hour, each,

(5) Ten (10) space heaters rated at 0.200 million British thermal units per hour, each, and

(6) Four (4) space heaters rated at 0.260 million British thermal units per hour, each.

The following conditions shall be applicable:

1. Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following:

   (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

   (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuos opacity monitor in a six (6) hour period.

2. Any change or modification which may increase the potential to emit a combination of HAPs, VOC, PM or PM_{10} to twenty five (25) tons per year or a single HAP to ten (10) tons per year from this source shall require approval from IDEM, OAQ prior to making the change.

3. Pursuant to 40 CFR 52 Subpart P, the PM from one (1) spray application that operates within an enclosed tank located in the one (1) surface coating operation shall not exceed the pound per hour emission rate established as E in the following formula:

   Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

   $E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
   P = process weight rate in tons per hour

   or

   Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

   $E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour and
   P = process weight rate in tons per hour

4. Pursuant to 326 IAC 6-3-2(d), particulate from the one (1) spray application shall be controlled by operating within an enclosed tank, and the Permittee shall operate the enclosed tank in accordance with manufacturer's specifications.

5. Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the conveying of thermoplastic granules into the nine (9) silos shall not exceed 3.38 pounds per hour when operating at a process weight rate of 0.750 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

6. Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicators at the dip tank and spray application shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for extreme performance coatings.

   Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

This registration is the first air approval issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.1-2(f)(3). The annual notice shall be submitted to:

Compliance Branch
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,
Original signed by Paul Dubenetzky

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

MLK/MES

cc: File - Elkhart County
Elkhart County Health Department
Air Compliance - Paul Karkiewicz
Northern Regional Office
Permit Filing - Lisa Lawrence
Air Programs Section- Michele Boner
Compliance Branch - Karen Nowak

Registration
Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3).

Company Name:	**Behlen Engineered Plastics**
Address:	**66742 County Road 23**
City:	**New Paris, Indiana 46553**
Authorized individual:	**Richard W. Graber**
Phone #:	**574-831-6450**
Registration #:	**R 039-16118-00572**

I hereby certify that Behlen Engineered Plastics is still in operation and is in compliance with the requirements of Registration **039-16118-00572**.

Name (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name:	**Behlen Engineered Plastics**
Source Location:	**66742 County Road 23, New Paris, Indiana 46553**
County:	**Elkhart**
SIC Code:	**3523, 3079**
Operation Permit No.:	**R 039-16118-00572**
Permit Reviewer:	**Mark L. Kramer**

The Office of Air Quality (OAQ) has reviewed an application from Behlen Engineered Plastics relating to the construction and operation of an agricultural plastics equipment and miscellaneous metal products manufacturing source.

Permitted Emission Units and Pollution Control Equipment

The source consists of no permitted emission units.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

New Emission Units and Pollution Control Equipment

The source consists of the following new facilities/units:

(a) One (1) surface coating operation, consisting of the following:

(1) One (1) E-coat epoxy dip tank, capacity: 163 metal agricultural parts per hour,

(2) One (1) E-coat acrylic dip tank, capacity: 163 metal agricultural parts per hour, and

(3) One (1) spray application, equipped with high volume low pressure (HVLP) spray guns, operating within an enclosed tank to control particulate overspray, capacity: 163 metal agricultural parts per hour.

(b) Four (4) roto-molding units, capacity: 285 pounds of resin per hour each.

(c) Nine (9) silos, total throughput capacity: 1,500 pounds of thermoplastic granules per hour, consisting of:

(1) Four (4) storage silos, capacity: 160,000 pounds thermoplastic granules each.

(2) Two (2) storage silos, capacity: 11,550 pounds thermoplastic granules each.

(3) Two (2) storage silos, capacity: 75,870 pounds thermoplastic granules each.

(4) One (1) regrinder silo, capacity: 61,400 pounds thermoplastic granules.

(d) Four (4) metal inert gas (MIG) welding stations, using ER70S-3 wire, capacity: 1.30 pounds of wire per hour, each.

(e) One (1) natural gas-fired boiler, rated at 8.37 million British thermal units per hour.

(f) One (1) natural gas-fired bake oven, rated at 2.5 million British thermal units per hour.

(g) Twenty-eight (28) natural gas-fired space heaters, rated at a total of 5.07 million British thermal units per hour, total, consisting of the following:

(1) One (1) space heater rated at 0.080 million British thermal units per hour,

(2) Three (3) space heaters rated at 0.130 million British thermal units per hour, each,

(3) Two (2) space heaters rated at 0.140 million British thermal units per hour, each,

(4) Eight (8) space heaters rated at 0.160 million British thermal units per hour, each,

(5) Ten (10) space heaters rated at 0.200 million British thermal units per hour, each, and

(6) Four (4) space heaters rated at 0.260 million British thermal units per hour, each.

Source Definition

This source is currently operating as Plt. ID. 039-00379 at 2600 College Avenue, Goshen, Indiana 45528, and is relocating as Plt ID. 039-00572 to 66742 County Road 23, New Paris, Indiana 46553 with some of the same equipment and new equipment. Therefore, this source is defined as a new source.

Existing Approvals

There are no existing approvals for this new source. The existing approvals from the old source shall not apply to this source.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on September 16, 2002, with additional information received on October 29 and December 6, 2002.

Emission Calculations

See pages 1 through 4 of 4 of Appendix A of this document for detailed emissions calculations.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	**Potential To Emit** (tons/year)
PM	11.2
PM_{10}	11.6
SO_2	0.042
VOC	5.15
CO	5.86
NO_X	6.98

HAPs	**Potential To Emit** (tons/year)
Benzene	0.0002
Dichlorobenzene	0.00008
Formaldehyde	0.005
Hexane	0.126
Toluene	0.0002
Lead	0.00003
Cadmium	0.00008
Chromium	0.0003
Manganese	0.072
Nickel	0.0004
TOTAL	0.205

(a) The potential to emit (as defined in 326 IAC 2-5.1-2) of PM and PM_{10} are less than twenty-five (25) tons per year and greater than five (5) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.1-2.

(b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

(c) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

No previous emission data have been received from the source because this is a new source.

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM_{10}	SO_2	VOC	CO	NO_X	HAPs
Surface Coating - Two (2) Dip Tanks	-	-	-	3.73	-	-	0.000
Surface Coating - One (1) Coating Application	0.00	0.00	-	0.800	-	-	0.000
Roto-molding	-	-	-	0.233	-	-	0.000
Pneumatic Conveying to 9 Silos	2.63	2.63	-	-	-	-	-
MIG Welding	0.118	0.118	-	-	-	-	0.073
Boiler	0.070	0.279	0.022	0.202	3.08	3.67	0.132
Bake Oven and Natural Gas-Fired Space Heaters	0.063	0.252	0.020	0.182	2.79	3.32	
Total Emissions	2.88	3.28	0.042	5.15	5.86	6.98	0.205

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM_{10}	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR Part 52.21.

(b) Elkhart County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(c) Fugitive Emissions

Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, 40 CFR Part 52.21, or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	2.88
PM_{10}	3.28
SO_2	0.042
VOC	5.15
CO	5.86
NO_X	6.98

This new source is **not** a major stationary source because no attainment pollutant is emitted at a

rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR Part 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than one hundred (100) tons per year,

(b) a single hazardous air pollutant (HAP) is less than ten (10) tons per year, and

(c) any combination of HAPs is less than twenty-five (25) tons per year.

This is the first air approval issued to this source.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20, 40 CFR 61 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Elkhart County and the potential to emit CO, PM_{10} and SO_2 is less than one hundred (100) tons per year and the potential to emit VOC and NO_X is less than ten (10) tons per year, therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR Part 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

On June 12, 2002, revisions to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) became effective; this rule was previously referred to as 326 IAC 6-3 (Process Operations). As of the date this permit is being issued these revisions have not been approved by EPA into the Indiana State Implementation Plan (SIP); therefore, the following requirements from the previous version of 326 IAC 6-3 (Process Operations) which has been approved into the SIP will remain applicable requirements until the revisions to 326 IAC 6-3 are approved into the SIP and the condition is modified in a subsequent permit action.

(a) Pursuant to 40 CFR 52 Subpart P, the particulate matter (PM) from the one (1) spray application that operates within an enclosed tank located in the one (1) surface coating operation, shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Under the rule revision, particulate from the one (1) spray application shall be controlled by operating within an enclosed tank, and the Permittee shall operate the enclosed tank in accordance with manufacturer's specifications.

(b) Pursuant to 326 IAC 6-3-1(b)(5), dip coating applications are exempt from the requirements of 326 IAC 6-3. Therefore, the requirements of 326 IAC 6-3-2 do not apply to the two (2) dip tanks in the one (1) surface coating operation.

(c) Pursuant to 326 IAC 6-3-1(b)(9), the four (4) metal inert gas (MIG) welding stations are not subject the requirements of 326 IAC 6-3 because the electrode consumption rates of the four (4) MIG welding stations are less than 625 pounds per day, each.

(d) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the conveying of thermoplastic granules into the nine (9) silos shall not exceed 3.38 pounds per hour when operating at a process weight rate of 0.750 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The conveying of thermoplastic granules complies with the requirements of 326 IAC 6-3-2 since the potential to emit particulate is 0.601 pounds per hour.

326 IAC 8-1-6 (New facilities; general reduction requirements)

This rule may apply to new facilities as of January 1, 1980. Since the potential top emit VOC from coating plastics is less than twenty-five (25) tons per year, 326 IAC 8-1-6 does not apply to this new source. Any change or modification which would increase the potential to emit VOC to twenty-five (25) tons per year or more from coating plastics, shall obtain prior approval from IDEM, OAQ.

326 IAC 8-2-9 (Miscellaneous Metal Coating)

The two (2) dip tanks and the one (1) spray application in the one (1) surface coating operation are subject to the requirements of 326 IAC 8-2-9 because the potential to emit VOC from the dip tanks and spray application are more than fifteen (15) pounds per day for the dip tank using powercron (P590-534).

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicators at the dip tank and spray application shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for extreme performance coatings.

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

Based on the MSDS submitted by the source and calculations made, the spray booth is in compliance with this requirement.

Conclusion

The construction and operation of this agricultural plastics equipment and miscellaneous metal products manufacturing source shall be subject to the conditions of the attached proposed New Source Construction and Registration 039-16118-00572.

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Company Name: **Behlen Engineered Plastics**
Address City IN Zip: **67742 County Road 23, New Paris, Indiana 46553**
Registration: **039-16118**
Plt ID: **039-00572**
Reviewer: **Mark L. Kramer**
Date: **September 16, 2002**

One (1) surface coating operation equipped with two (2) dip tanks and one (1) spray application and Roto-molding

Material	Density (lbs/gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (units/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC (pounds per hour)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Particulate Potential (tons/yr)	lbs VOC/gal solids	Transfer Efficiency
P590-534 Powercron	9.05	62.47%	60.6%	1.87%	65.8%	34.50%	0.02577	163	0.495	0.169	0.711	17.06	3.114	0.00	0.491	100%
P390-311 Powercron	8.43	90.00%	89.6%	0.40%	89.7%	10.00%	0.02577	163	0.327	0.034	0.142	3.40	0.620	0.00	0.337	100%
Parcolene 95 AT	9.16	8.00%	0.00%	8.00%	0.00%	92.0%	0.00153	163	0.733	0.733	0.183	4.39	0.800	8.28	0.797	10.0%
Roto-molding																
TRA 420	7.91	1.00%	0.00%	1.00%	0.00%	0.0%	0.00833	1	0.079	0.079	0.001	0.02	0.003	0.00	n/a	100.0%
Camie 100	5.40	93.40%	0.00%	93.40%	0.00%	0.0%	0.01042	1	5.044	5.044	0.053	1.26	0.230	0.00	n/a	100.0%
								PM	Control Efficiency	100%						
Potential to Emit			**Add worst case coating to all solvents**						**Uncontrolled**		**1.036**	**24.86**	**4.54**	**8.28**		
									Controlled		**1.088**	**26.12**	**4.77**	**0.00**		

METHODOLOGY

Transfer efficiency is based on coating a table leg with a high volume low pressure (HVLP) spray gun
Pounds of VOC per Gallon Coating less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lbs/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

All spraying is performed in an enclosed tank with the door closed

VOC emissions from Roto-molding based on information supplied to IDEM, OAQ on November 19, 1997

The molding operation takes polyethylene resin and melts it into a formed mold. It is not injected to create sheer forces. MSDS verify that that are no VOCs or HAPs in the resin. Two (2) lubriants are used TRA 420 and Camie 100.

Company Name: **Behlen Engineered Plastics**
Address City IN Zip: **67742 County Road 23, New Paris, Indiana 46553**
Registration: **039-16118**
Plt ID: **039-00572**
Reviewer: **Mark L. Kramer**
Date: **September 16, 2002**

Four (4) metal inert gas (MIG) welding stations

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)		EMISSION FACTORS * (lb pollutant / lb electrode)				EMISSIONS (lb/hr)				TOTAL HAPS (lb/hr)
WELDING				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Metal Inert Gas (MIG)(ER70S-3)	4.00	1.30		0.0052	0.00318	0.00001	0.00001	0.027	0.017	0.0001	0.0001	0.017
EMISSION TOTALS								PM = PM10	Mn	Ni	Cr	Total HAPs
Potential Emissions lbs/hr								0.027	0.017	0.0001	0.0001	0.017
Potential Emissions lbs/day								0.65	0.397	0.001	0.001	0.399
Potential Emissions tons/year								**0.118**	**0.072**	**0.0002**	**0.0002**	**0.073**

Note that the AP-42 Emission Factors for ER-70S were used to calculate the potential to emit of the four (4) MIG welding stations

METHODOLOGY

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column. Consult AP-42 or other reference for different electrode types.
Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)
Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)
Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day
Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/day x 1 ton/2,000 lbs.
Plasma cutting emission factors are from the American Welding Society study published in Sweden (March 1994).
Welding and other flame cutting emission factors are from an internal training session document.
See AP-42, Chapter 12.19 for additional emission factors for welding.

Emissions from pneumatic conveying of the thermoplastic granules

Process Capacity	1500	lbs/hr		
PM emission Factor	0.801	lbs/ton	AP-42 Chapter 6.6-2.11	footnote (f) 0.4 grams/kilogram

Potential PM & PM-10 Emissions (tons/yr) = **2.63**

PTE of PM and PM-10 = Process Capacity (tons/hr) * Emission Factor (lbs/ton) * 8,760 hrs/yr * 1 ton/ 2000 lbs

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Behlen Engineered Plastics
Address City IN Zip: 67742 County Road 23, New Paris, Indiana 46553
Registration: 039 16118
Plt ID: 039-00572
Reviewer: Mark L. Kramer
Date: September 16, 2002

Natural Gas-Fired Units
One (1) boiler @ 8.37 mmBtu/hr
One (1) bake oven @ 2.5 mmBtu/hr
One (1) space heater @ 0.080 mmBtu/hr
Three (3) space heaters @ 0.130 mmBtu/hr, each
Two (2) space heaters @ 0.140 mmBtu/hr, each
Eight (8) space heaters @ 0.160 mmBtu/hr, each
Ten (10) space heaters @ 0.200 mmBtu/hr, each
Four (4) space heaters @ 0.260 mmBtu/hr, each

Heat Input Capacity MMBtu/hr		Potential Throughput MMCF/yr
7.57	**Natural Gas-Fired Units**	66.31
8.37	**Natural Gas-Fired Boiler**	73.32

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emissions tons/yr NG-fired Units	0.063	0.252	0.020	3.32	0.182	2.79
Potential Emissions tons/yr Boiler	0.070	0.279	0.022	3.666	0.202	3.08
Total Potential Emissions tons/yr	**0.133**	**0.531**	**0.042**	**6.982**	**0.384**	**5.86**

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
See page 4 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
HAPs Emissions

Company Name: Behlen Engineered Plastics
Address City IN Zip: 67742 County Road 23, New Paris, Indiana 46553
Registration: 039 16118
Plt ID: 039-00572
Reviewer: Mark L. Kramer
Date: September 16, 2002

All Natural Gas Combustion

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.00015	0.00008	0.00524	0.12567	0.00024

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel	Total HAPs
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	0.00003	0.00008	0.00010	0.00003	0.00015	0.132

Methodology is the same as page 3.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.